

SM223 I :: 3D Animation I :: Basics

Lighting

# Objectives of Lighting

- Not only to illuminate the scene
- Not only to make a beautiful image
- But most importantly, to help tell the story

# Quality of Light

# Quality of Light

- Softness / Hardness
- Color
- Angle of throw

# Soft Lighting



# Harsh Lighting



Ren Hang



STIEGLITZ 19

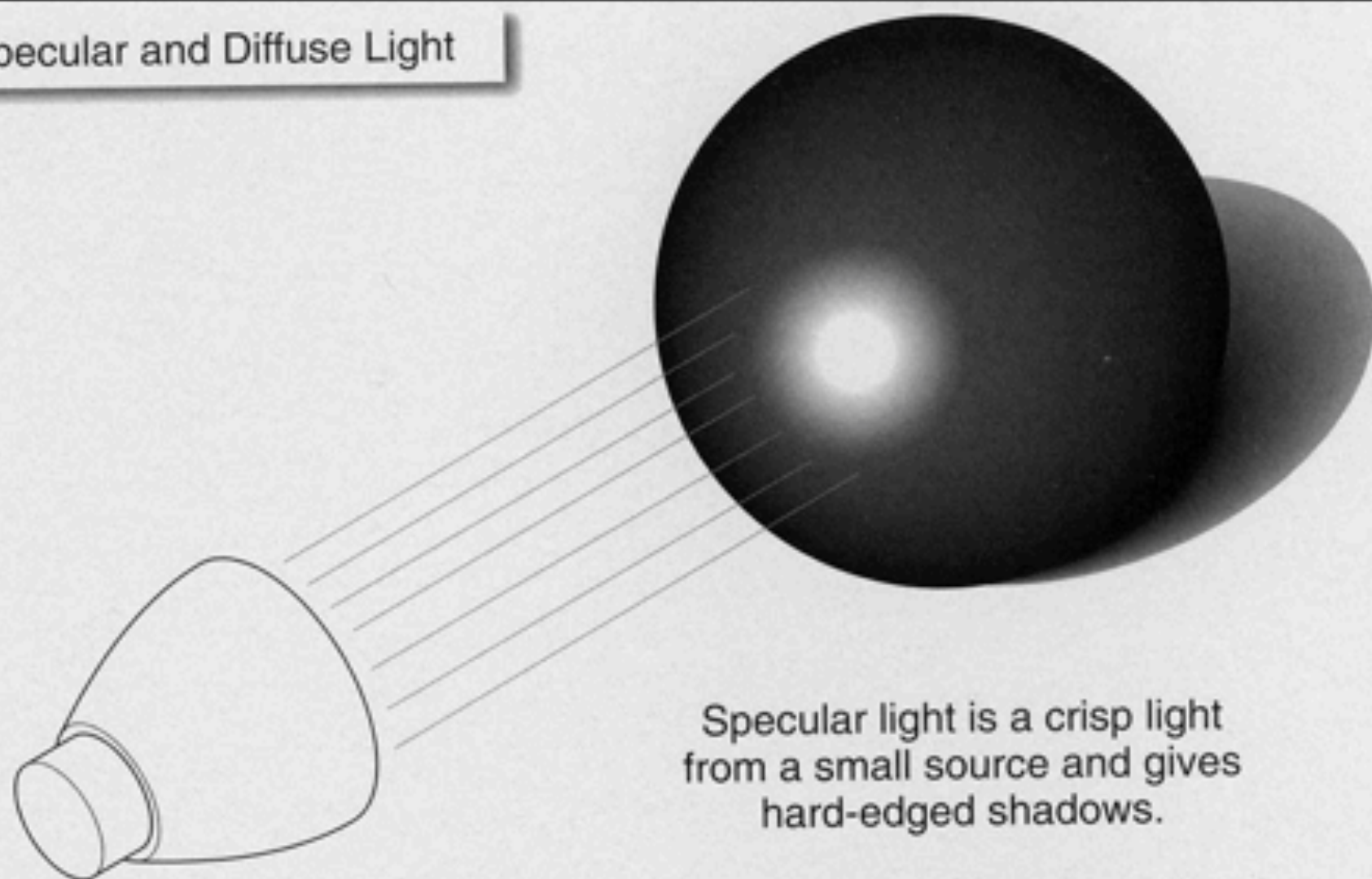


Weegee

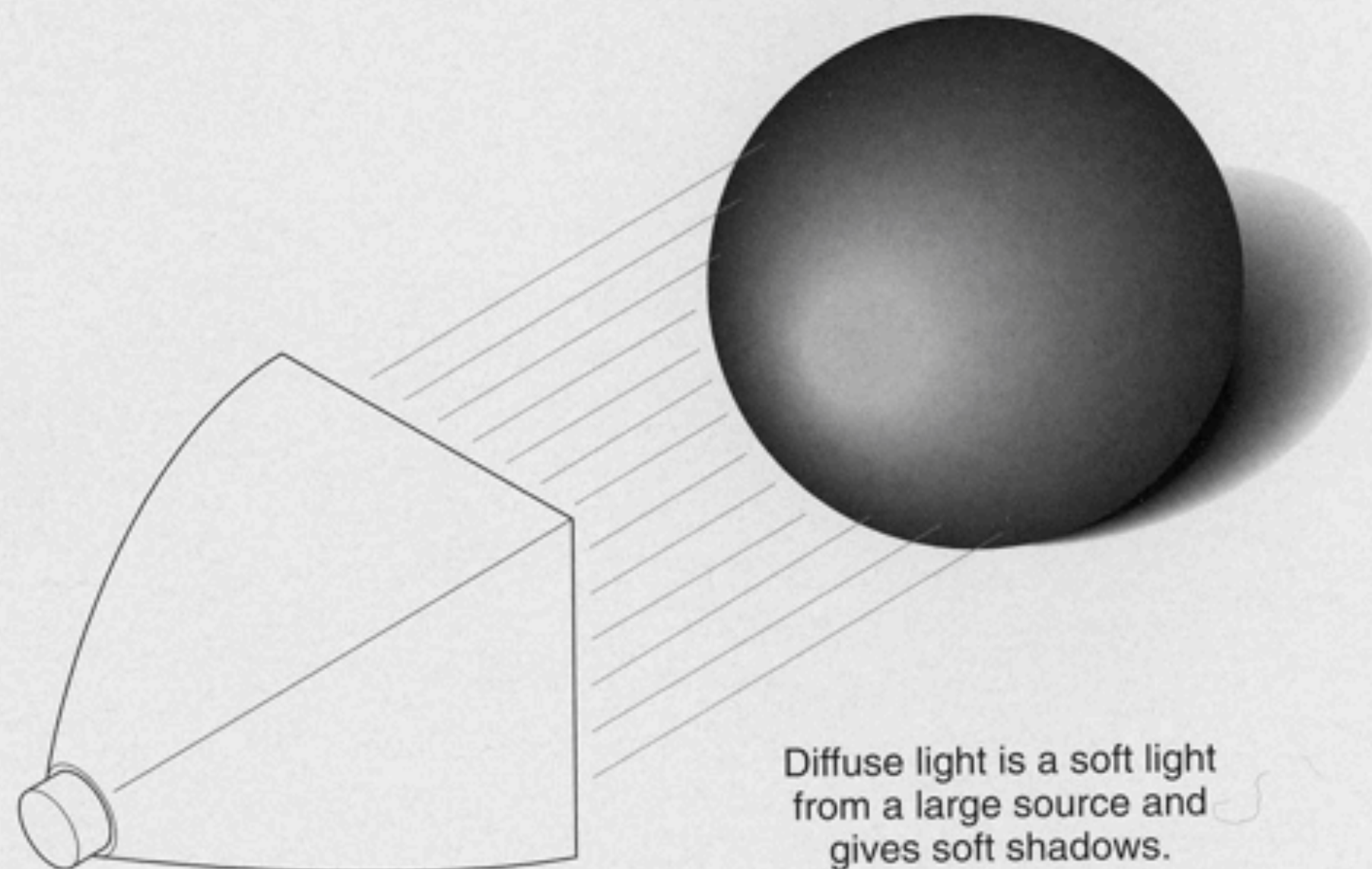
# Soft vs Harsh Lighting



Specular and Diffuse Light



Specular light is a crisp light from a small source and gives hard-edged shadows.



Diffuse light is a soft light from a large source and gives soft shadows.

# Softness / Hardness



# Basic Types of Light



Point Light



Spot Light



Directional Light



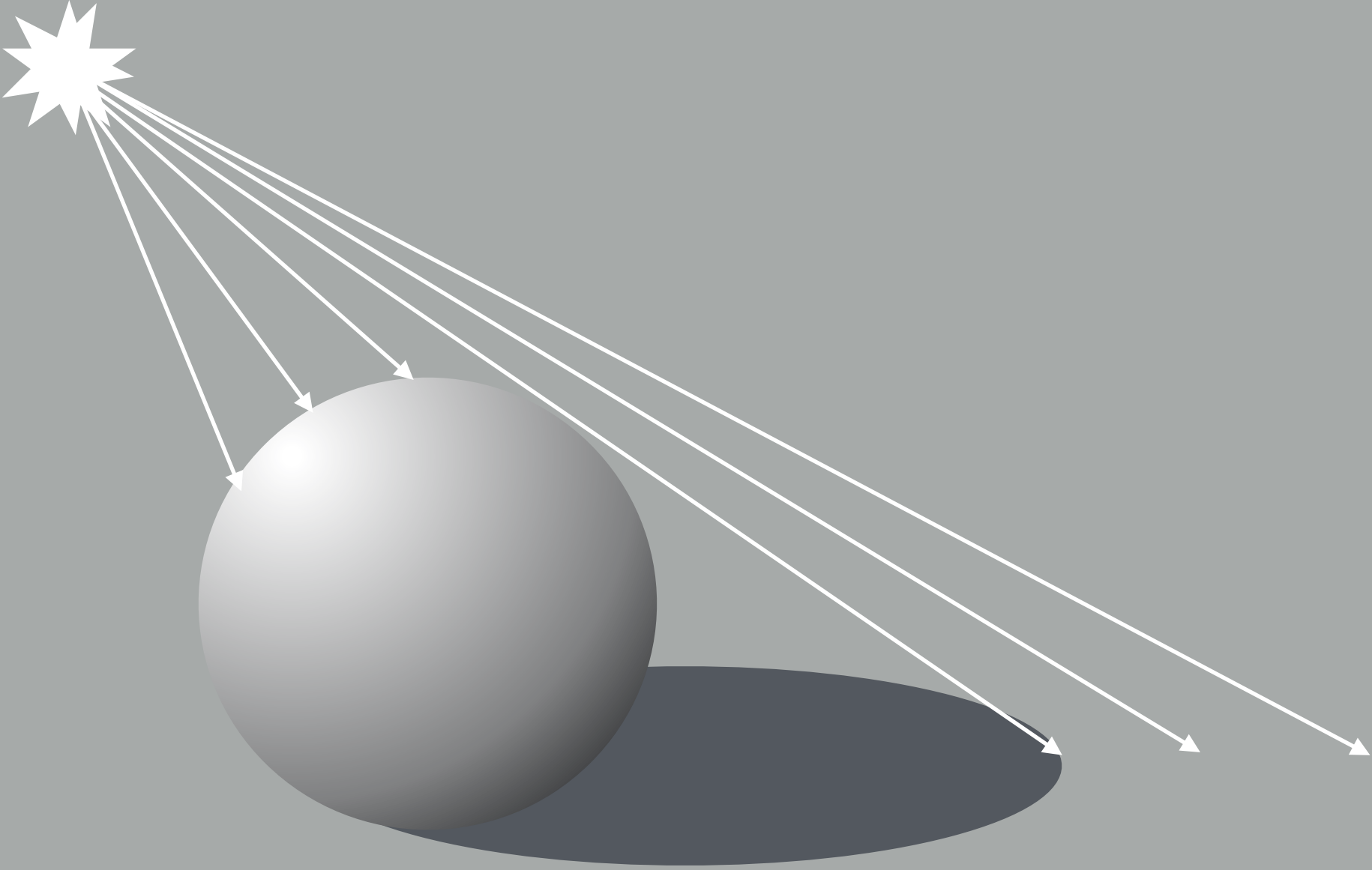
Area Light



Ambient Light

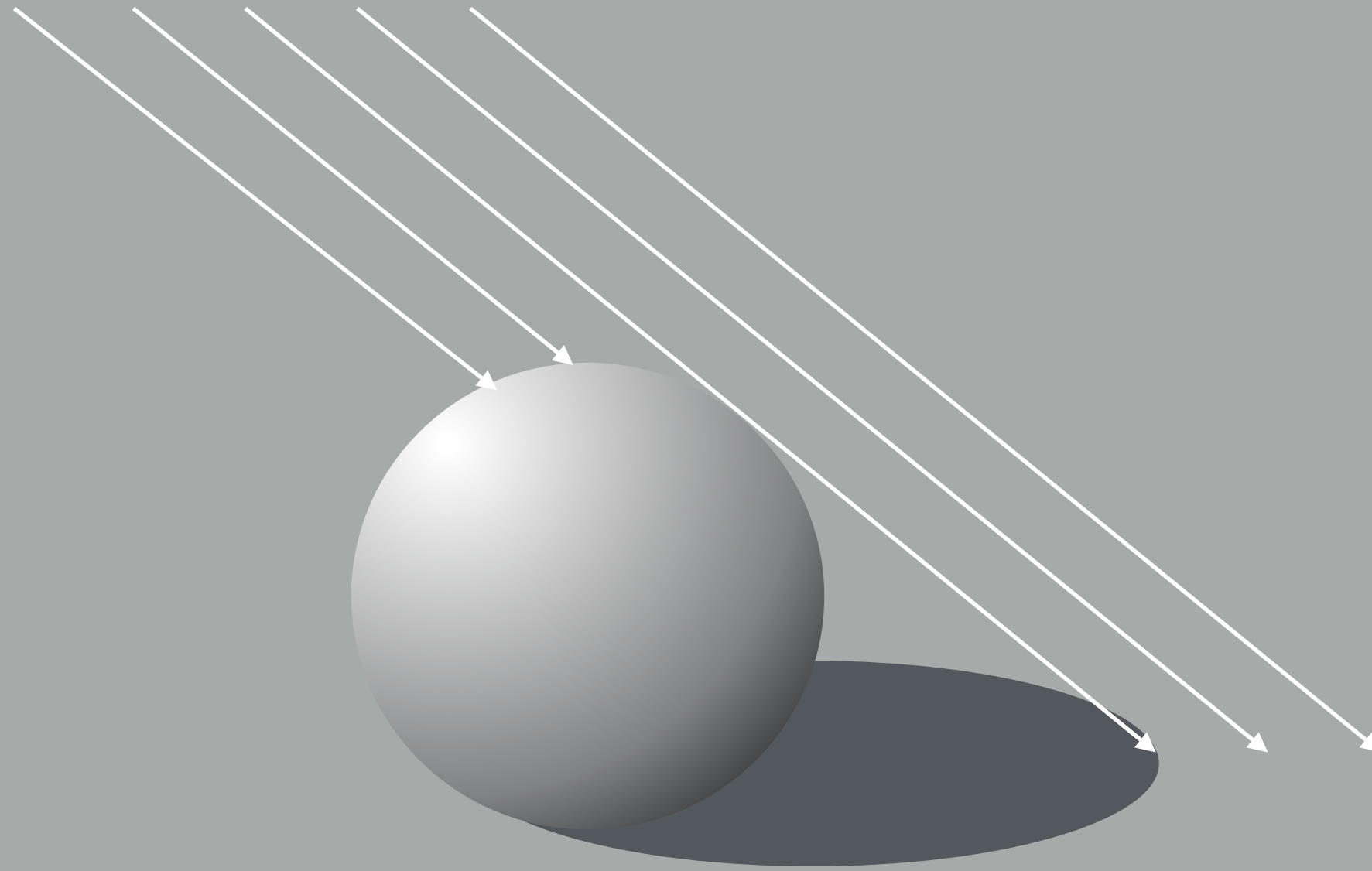
Shadow Softness

Point Light emits light rays from one  
single point

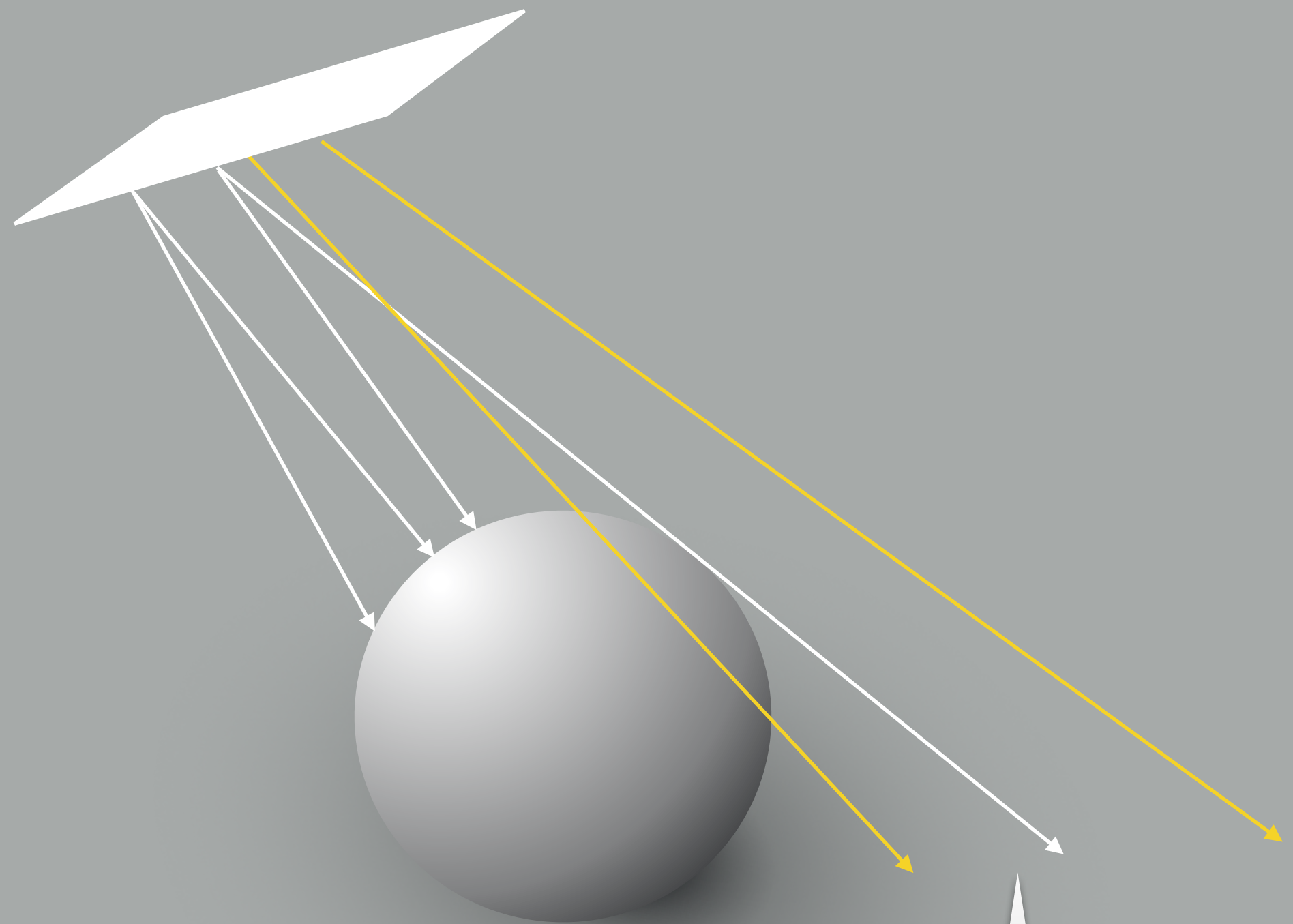




Directional Light

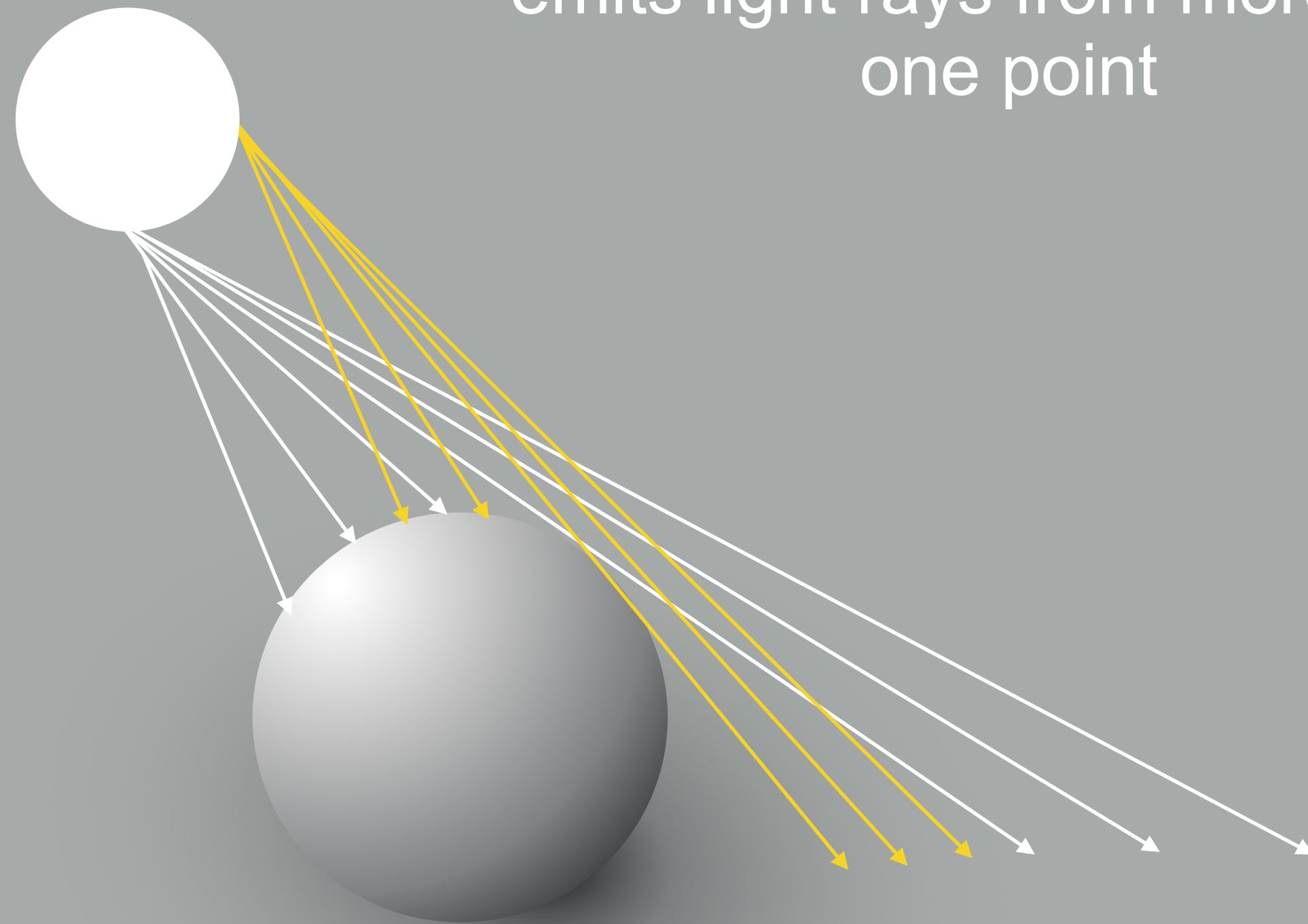


Area Light  
emits light rays from more  
than one point



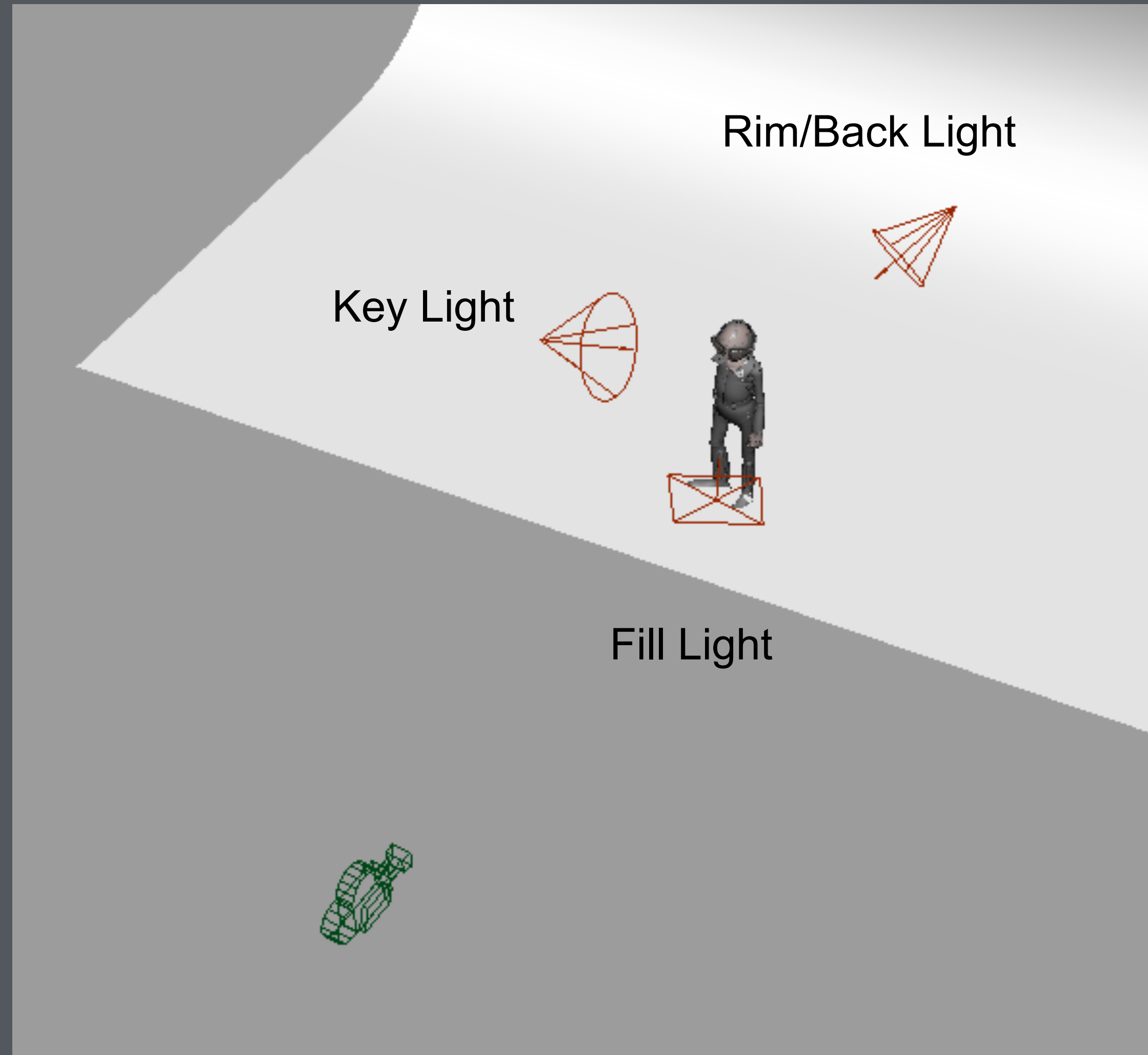
The soft region of a shadow is reached by light rays coming in from different angles

Point Light with  
radius  $> 0$   
emits light rays from more than  
one point



# Typical Studio Lighting

# 3 Points Lighting



# 3 Points Lighting



# Key Light



# Fill Light





# Rim / Back Light

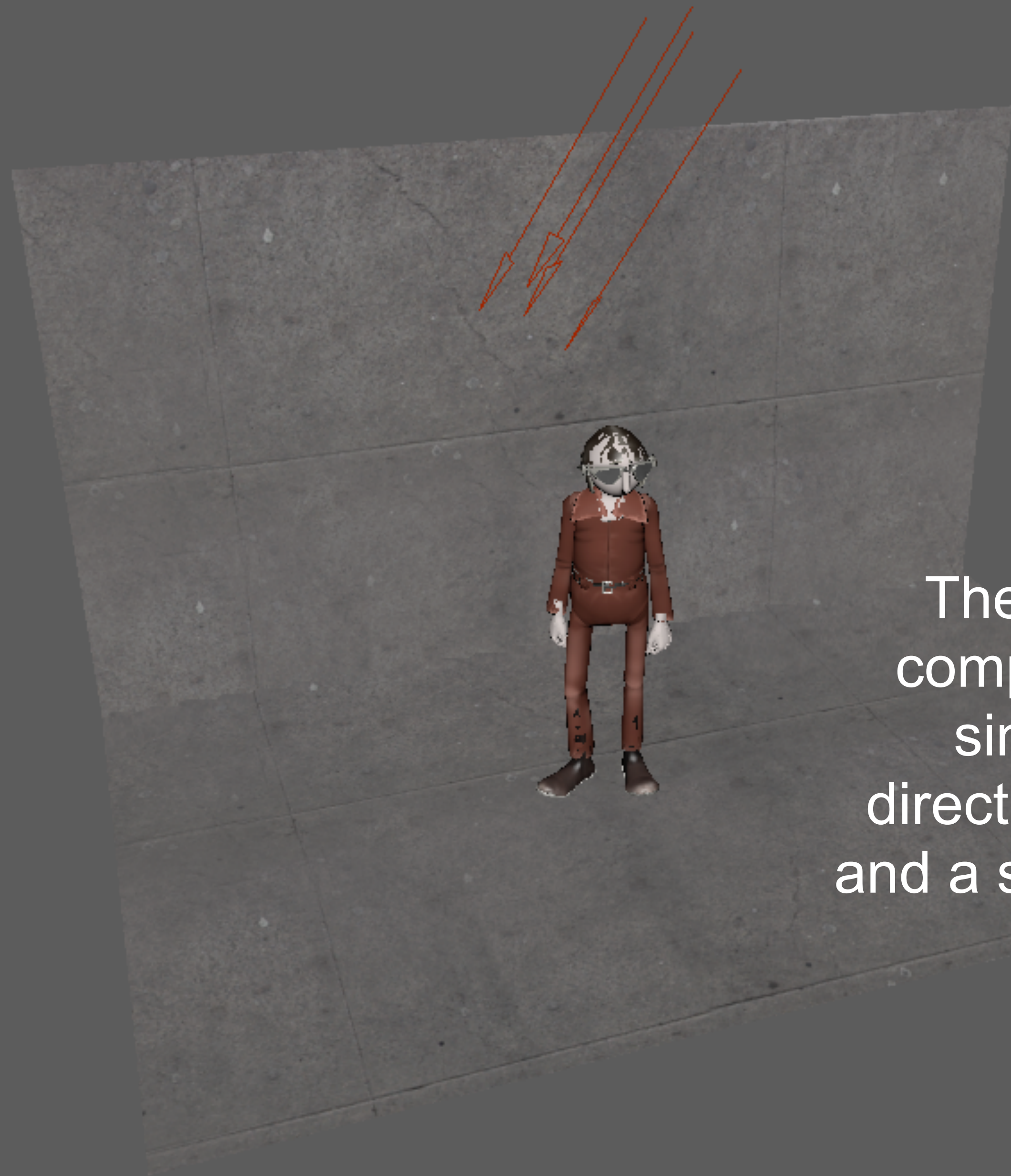


# Arnold Render



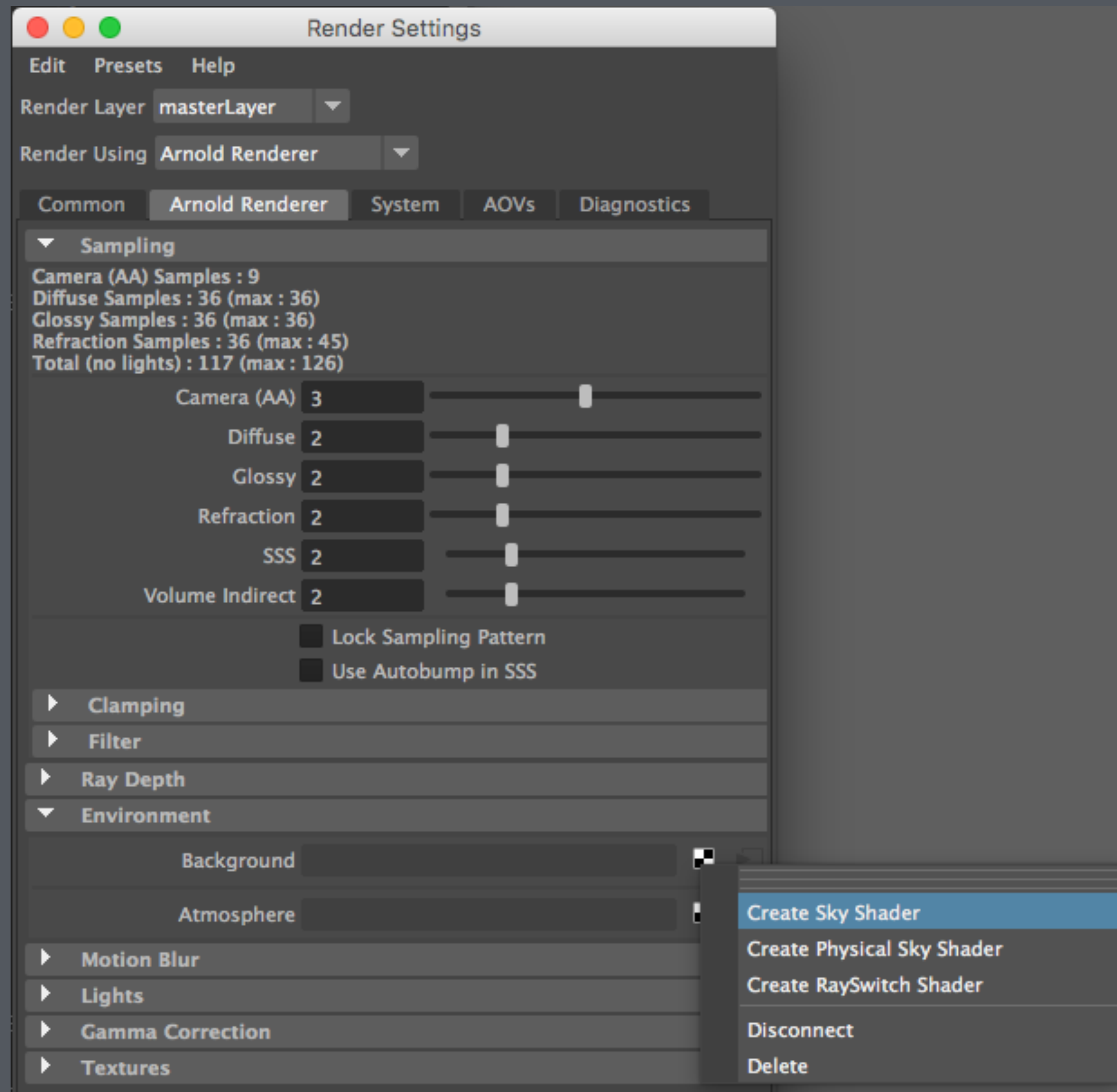
Outdoor Daylight





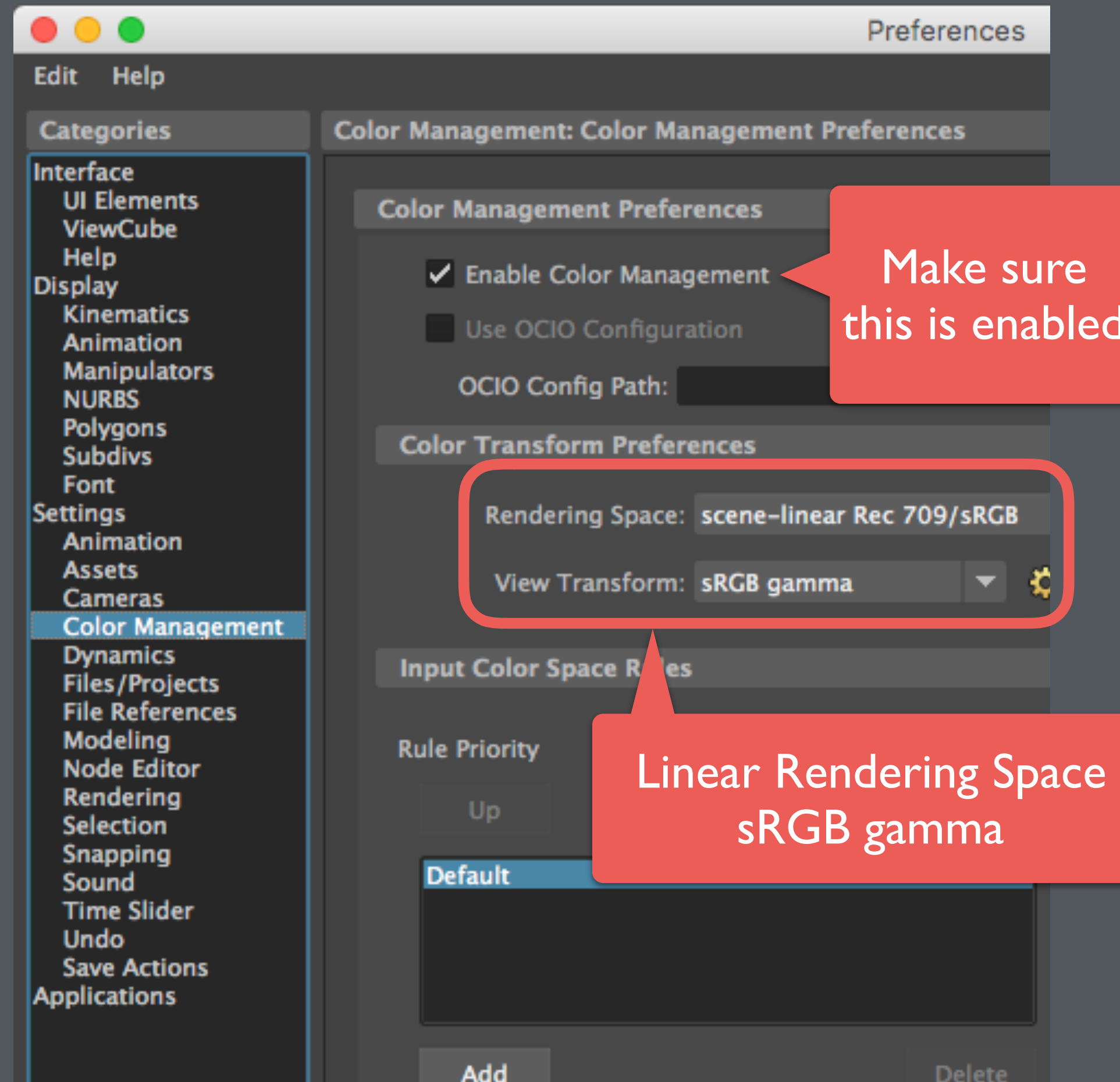
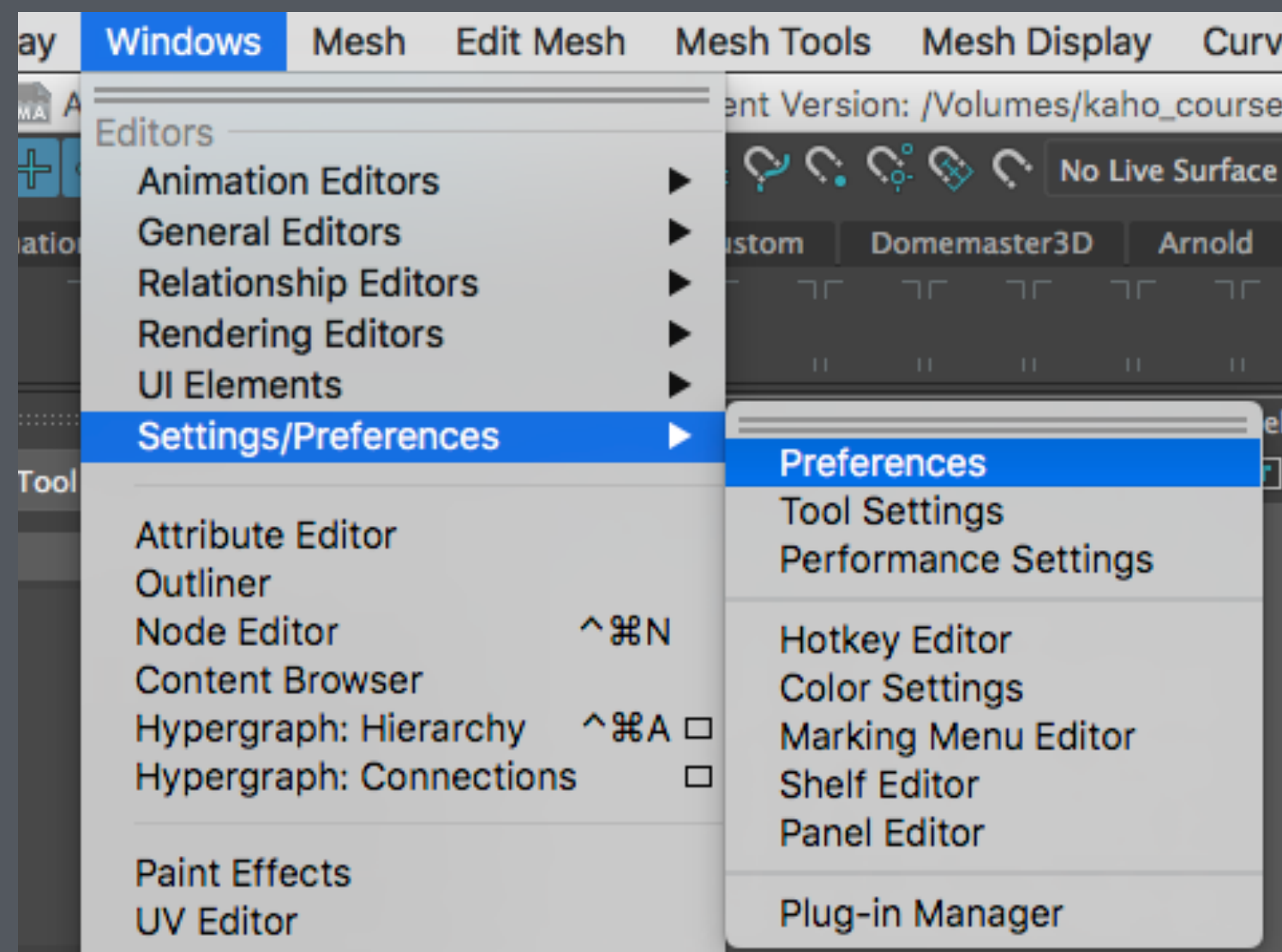
The scene  
comprises of  
simply a  
directional light  
and a skyShader.

# Creating the skyShader



# Color Management

# Color Management in Arnold for Maya

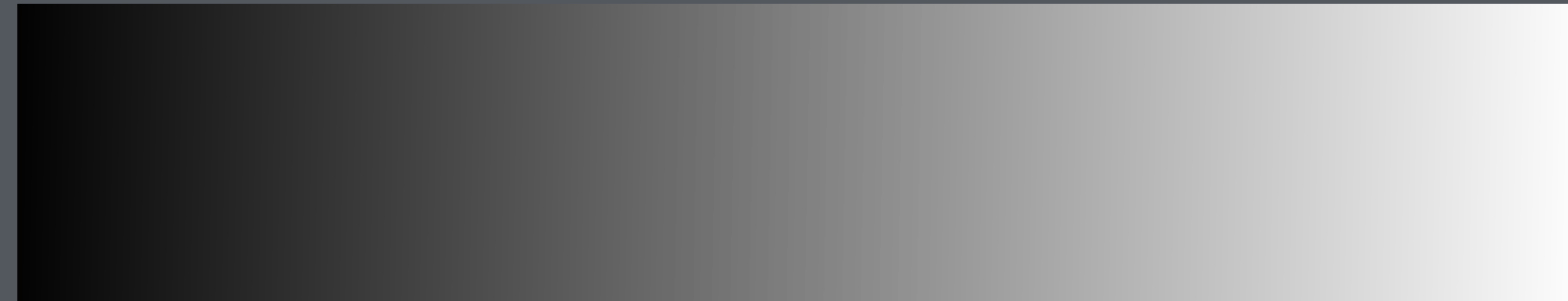




Lighting Style

# Lighting Style

- Described by the Tonal Range



- Some generalisations:
  - High Key
  - Low Key
  - High / Low Contrast

# Low Key Lighting



Eric Burgers



Sean Mcgrath

# Low Key Lighting



Gregory Crewdson



# Low Key Lighting



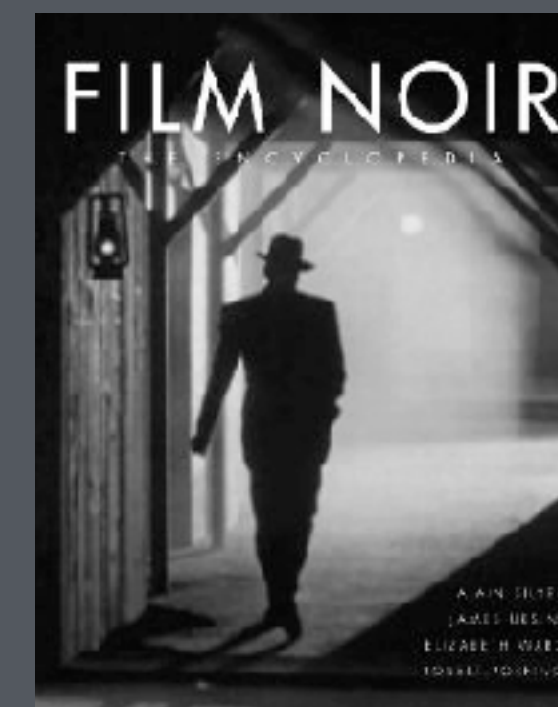
Kaho Yu



# Low Key Lighting



The Film Noir aesthetics in the 40s and 50s, influenced by the German Expressionism, used Low Key Lighting extensively.



# High Key Lighting



Ramil Sagum



Guillaume Schaeffer

# High Key Lighting



Kyoko Hamada





# High Key Lighting



Rinko Kawauchi



# High Contrast Lighting



Diado Moriyama



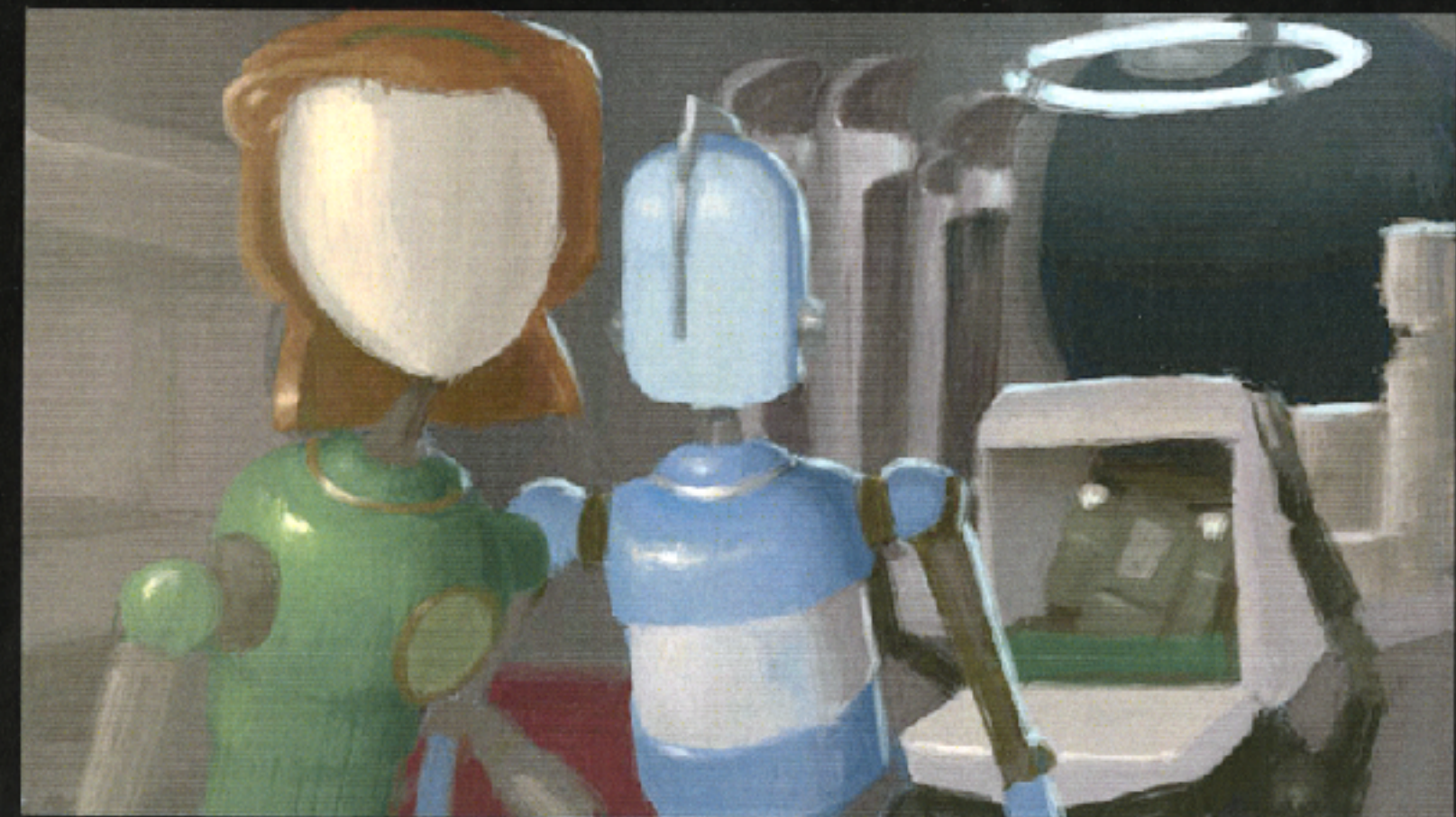
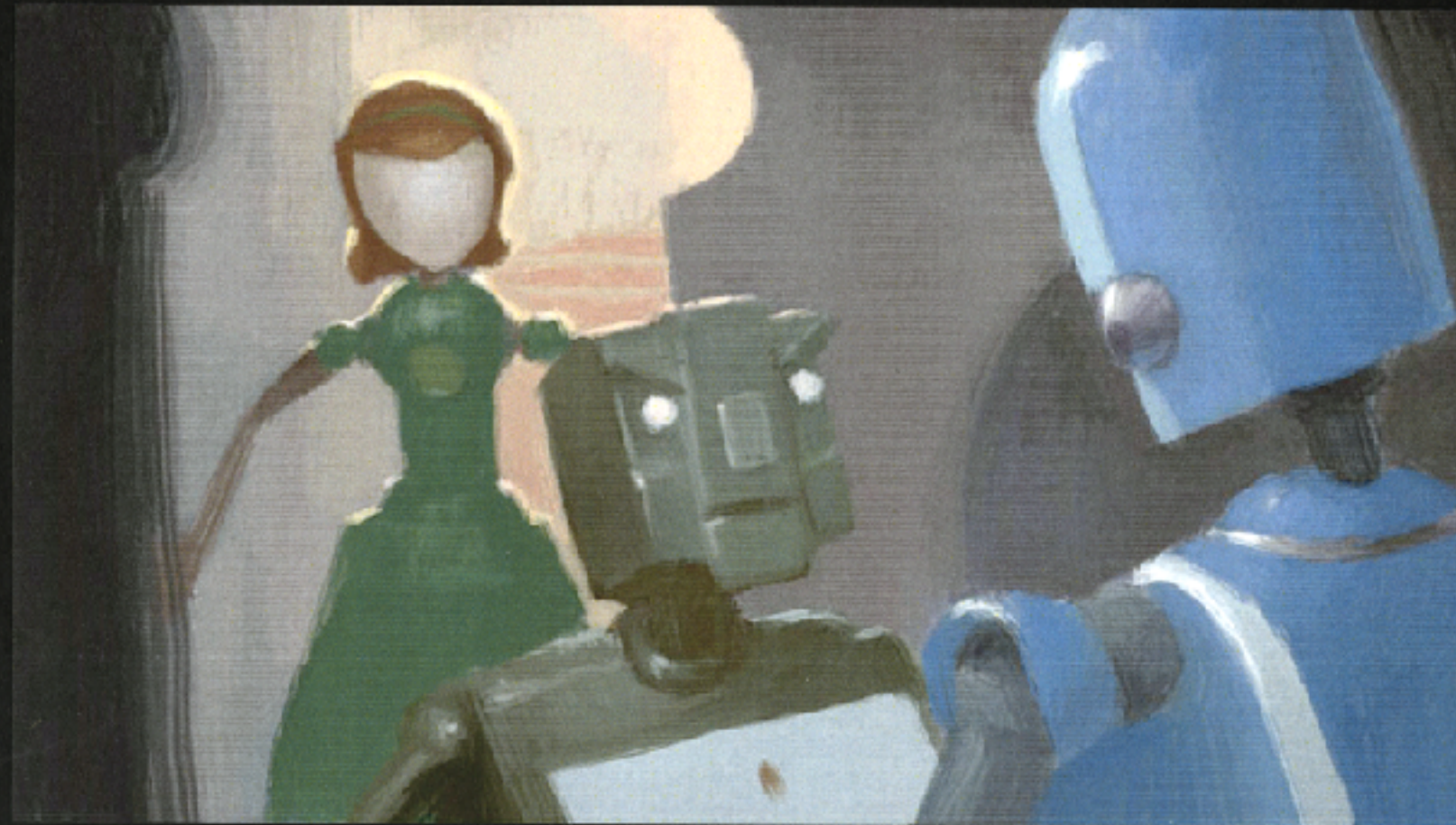
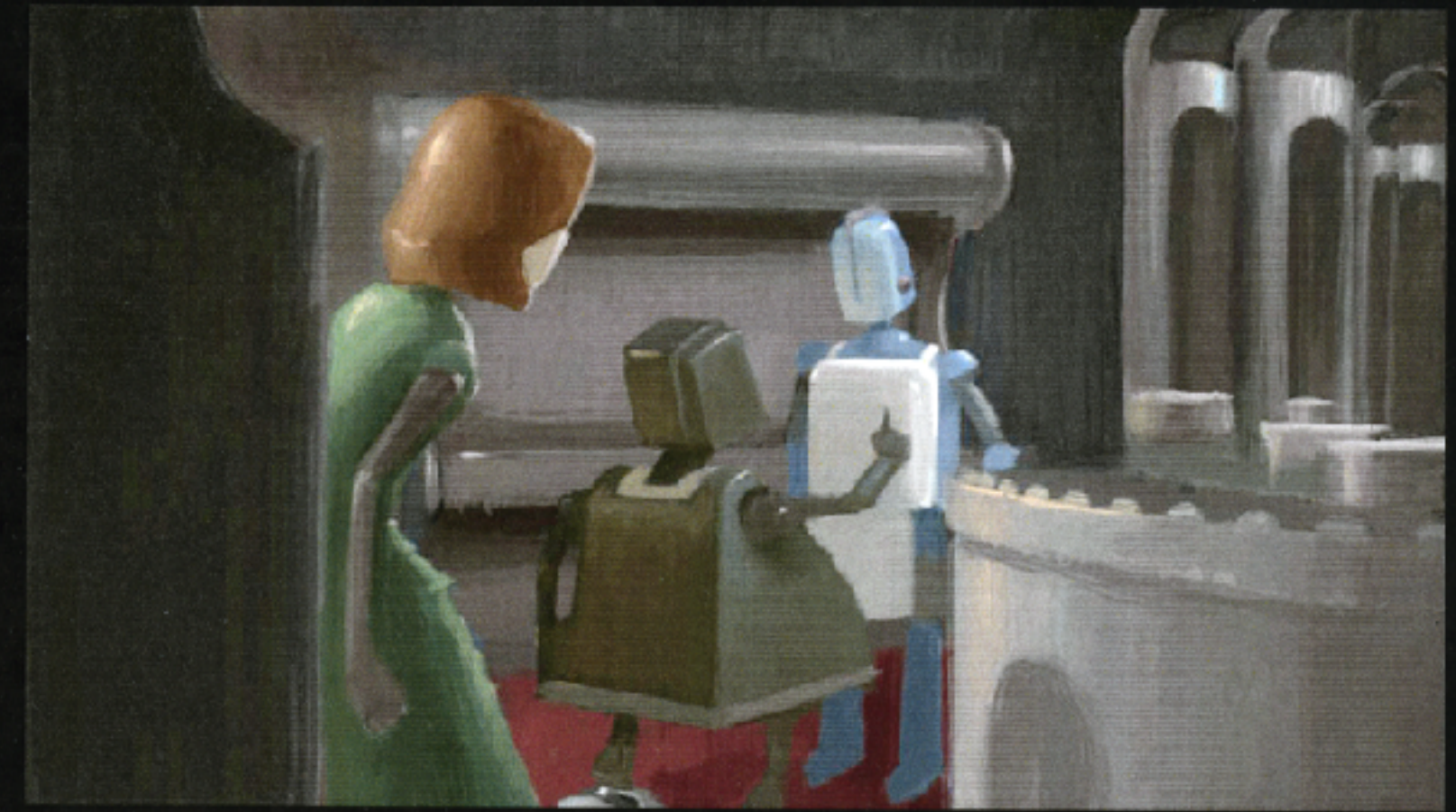
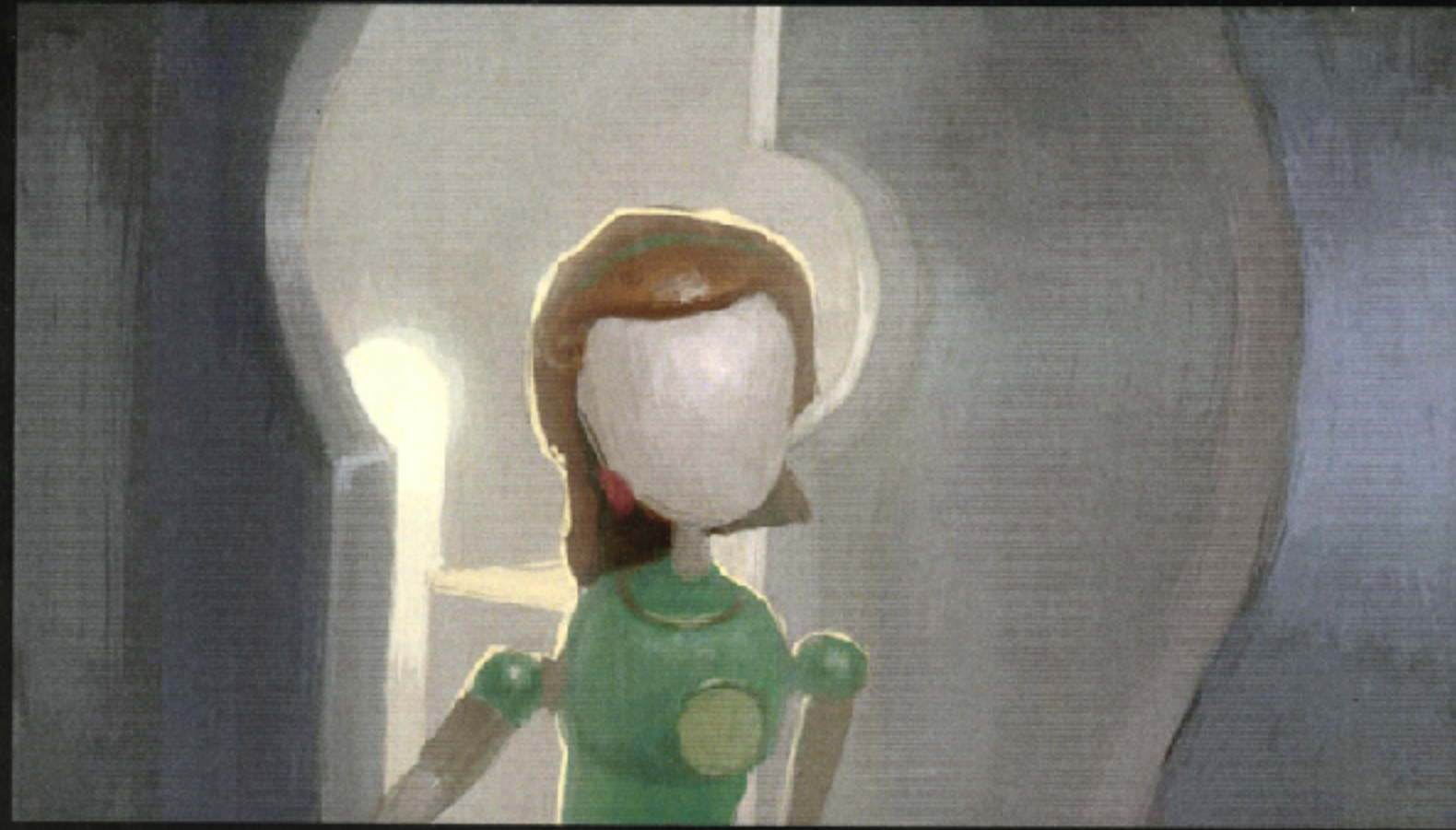
# High Contrast Lighting



Diado Moriyama



# 340 Colorkey



# Industry Examples

